

**CLAIMS**

1. (Original) A configuration model producing apparatus, for producing an analytical configuration model from a configuration model modeling an outer configuration of a target of analyzing, comprising:

a simplification candidate portion automatic extracting means for taking out a difference from an original configuration model by expanding or reducing the configuration model partially, thereby deciding to be a candidate to be removed if the difference is less than a predetermined reference; and

a simplifying means for producing the configuration model for use in analyzing, by removing the candidate decided to be removed from.

2. (Original) A configuration model producing apparatus, for producing an analytical configuration model, being simplified on partial configurations unnecessary for analyzing, upon basis of the configuration model, comprising:

a configuration model data inputting means for inputting the configuration model;

a reference parameter designating means for inputting reference parameter for comparing partial configurations and sizes to partial configurations of the configuration model;

a simplification candidate portion automatic extracting means for automatically searching the partial configuration falling within a region of the reference parameter, and for extracting the partial configuration coincident with the searching to be a simplification candidate partial configuration;

a simplification portion selecting means for selecting the partial configuration to be simplified from the simplification candidate partial configuration; and

a simplifying means for producing the analytical configuration model removing the selected partial configuration therefrom.

3. (Original) The configuration model producing apparatus, as described in the claim 2, wherein said simplification candidate portion automatic extracting means, includes: means for producing a configuration, expanding from the configuration model in an outside direction thereof by the reference parameter, comparing the expanded configuration with the configuration model and searching the partial configuration disappearing and the partial configuration reversed, thereby registering the partial configuration, being coincident with the searching condition, to be a simplification candidate partial configuration; and means for producing a configuration, reducing from the configuration model in an inside direction thereof by the reference parameter, comparing the reduced configuration with the configuration model and searching the partial configuration disappearing and the partial configuration reversed, thereby registering the partial configuration, being coincident with the searching condition, to be the simplification candidate partial configuration.

4. (Original) The configuration model producing apparatus, as described in the claim 2, further comprising a simplification candidate portion emphatic displaying means for displaying the simplification candidate partial configuration, which is extracted by said simplification candidate automatic extracting means, with emphasizing thereon.

5. (Original) The configuration model producing apparatus, as described in the claim 3, further comprising a simplification candidate portion emphatic displaying means for displaying the simplification candidate partial configuration, which is extracted by said simplification candidate automatic extracting means, with emphasizing thereon.

6. (Currently Amended) A configuration model producing apparatus, for producing an analytical configuration model, being simplified on partial configurations unnecessary for analyzing, upon basis of the configuration model, comprising:

- a configuration model data inputting means for inputting the configuration model;
- a reference parameter designating means for inputting reference parameter for comparing partial configurations and sizes to partial configurations of the configuration model;
- a simplification database registering means for registering data of the partial configuration to be simplified into a simplification database, together with a simplification name thereof;
- a simplification parameter selecting means for outputting data of the partial configuration, which is read therein from the simplification database with designating a target to be simplified, as a reference parameter;
- a simplification candidate portion automatic extracting means for automatically searching the partial configuration falling within a region of the reference parameter, and for taking out a difference from the original configuration model by expanding or reducing the configuration model partially, thereby deciding to be a candidate to be removed if the difference is less than a predetermined reference and extracting the partial configuration coincident with the searching to be a simplification candidate partial configuration;
- a simplification portion selecting means for selecting the partial configuration to be simplified from the simplification candidate partial configuration; and
- a simplifying means for producing the analytical configuration model removing the selected partial configuration therefrom.

7. The configuration model producing apparatus, as described in the claim 6, wherein

said simplification candidate portion automatic extracting means, includes: means for producing a configuration, expanding from the configuration model in an outside direction thereof by the reference parameter, comparing the expanded configuration with the configuration model and searching the partial configuration disappearing and the partial configuration reversed, thereby registering the partial configuration, being coincident with the searching condition, to be a simplification candidate partial configuration; and means for producing a configuration, reducing from the configuration model in an inside direction thereof by the reference parameter, comparing the reduced configuration with the configuration model and searching the partial configuration disappearing and the partial configuration reversed, thereby registering the partial configuration, being coincident with the searching condition, to be the simplification candidate partial configuration.

8. (Original) The configuration model producing apparatus, as described in the claim 6, further comprising a simplification candidate portion emphatic displaying means for displaying the simplification candidate partial configuration, which is extracted by said simplification candidate automatic extracting means, with emphasizing thereon.

9. (Original) The configuration model producing apparatus, as described in the claim 7, further comprising a simplification candidate portion emphatic displaying means for displaying the simplification candidate partial configuration, which is extracted by said simplification candidate automatic extracting means, with emphasizing thereon.